Changes to the BER business surveys

The business survey method

Short-term planning is hampered as official (quantitative or numeric) data is released with a time lag. Business tendency *survey* (BTS) *results reveal what happened between the release of the last official figures and the current state of affairs*. The survey results not only reveal earlier developments in activity, employment etc. (for which official figures are published), but also provide unique information, such as business confidence and respondents' expectations (or forecast) for the next quarter for which no official figures exist. It is now widely recognised that such subjective individual expectations play a key role in economic developments. Furthermore, the survey results of successive quarters *provide a means of tracking cyclical movements, pinpointing trend changes* and establishing forecasts.

The survey results are obtained from questionnaires completed by senior executives in the trade, manufacturing and building sector during the middle month of every calendar quarter.

The business survey questionnaire contains a small number of questions. These questions are qualitative in nature, e.g. "Compared to the same quarter a year ago, is the volume of sales up, the same or down?". No figures are requested.

The sample of executives remains the same from one survey to the next. A panel is in effect established. The sample provides for the main sectors. The list of participants is reviewed every few years to replace those firms that went out of business or stopped responding during the previous two years with new ones.

To provide for widely differing sizes, each firm in the manufacturing and trade sectors is allocated a weight based on its turnover. Firms in the building sector are not weighted. Participants have to complete a "participant details form" at the time of recruitment and every few years to ensure that their sector classification and turnover (optional) are correct.

The BER conducted its first survey of the manufacturing and trade (i.e. retail, wholesale and motor trade) sectors in 1954. The sector coverage was expanded to the building sector (i.e. main contractors and sub-contractors) in 1969. Architects, quantity surveyors and civil engineering contractors were added later to the building survey.

Third quarter of 2018 changes

Building sector

Sector classification and geographical results

The BER used to only publish the results for main contractors and sub-contractors, each divided into a residential and a non-residential component. No totals for the residential, non-residential and overall building sector were produced. From the third quarter of 2018 onwards, the BER calculates such totals. For the first time, this sector classification makes direct comparisons between the survey and the official data possible. Previously it was not possible, because no equivalent quantitative time series of main and sub-contractors' activities exist.

- Residential building combines the residential main contractors and the residential sub-contractors.

- Non-residential building combines the non-residential main contractors and the non-residential sub-contractors.
- Total building combines the residential and non-residential components.

The results for main contractors and sub-contractors are still calculated for legacy reasons, but the split between residential and non-residential was discontinued.

From the third quarter of 2018 onwards, the provincial data is calculated at the total building level of aggregation instead of the main and sub-contractor ones. The Eastern Cape was dropped due to its diminishing share.

The original individual responses (the so-called micro data) were used to recalculate historical time series for all the new sectors and the three provinces (Western Cape, KwaZulu-Natal and Gauteng) going back to 1992. To estimate the residential, non-residential and overall building sectors between 1985 and 1991, the residential and non-residential main and sub-contractor time series were weighted. The data prior to 1985 is not available in electronic format.

Fourth quarter of 2018 changes

Retail, wholesale and motor trade surveys

Weighting

Usually, surveys make use of weights to provide for the fact that not all units of the population universe are quizzed. In the case of qualitative surveys, there is an additional purpose, namely to provide for the fact that the responses do not reflect size, but rather direction. For instance, if both a micro-sized and a large firm reply output is "up", the one could indicate a R5 million increase and the other R100 million. Respondents, therefore, are given a firm size weight (based on their turnover) in addition to a sector weight (based on the sector composition of production according to Stats SA) in qualitative surveys.

Every few years the BER needs to update the sector weights to provide for changes in the composition of sales. On top of this update, this time around we also reduced the number of firm size weight categories from nine to four and reduced the ratio between the smallest and the largest firm weight. The four new categories agree with the micro, small, medium and large firm size categories of Stats SA and the DTI (Department of Trade and Industry). The ratio was reduced to deal with the volatility in the survey results when not all the participants respond every quarter.

Sector and provincial results

The BER used to publish the retail durable sector and retail hardware, a sub-sector of the durable sector. From the fourth quarter of 2018, the BER will also publish retail furniture, which is all durable goods other

than hardware and building materials. Retail furniture and retail hardware combined, therefore, make up retail durable goods.

From the fourth quarter of 2018, the BER will no longer publish the sub-sectors of the wholesale consumer and wholesale non-consumer goods sectors separately, namely machinery, building materials, clothing and food, due to declining shares, low response numbers and poor correlations with the reference series.

Due to its diminishing share, the results for the Eastern Cape will also no longer be published separately.

Revision of the historical time series

The updated sector weights and the new four-category firm weights were applied to the original individual responses (the so-called microdata) to recalculate all the historical time series going back to 1992.

The historical time series for the period from 1983 to 1991 were changed back to those originally published. The adjustment factors added in 1997Q1 and 2008Q3 to link the data after sector weight updates were removed. As a result, the level of the data prior to 1992 differs slightly from that published until the fourth quarter of 2018.

In most cases, the data prior to 1983 is not available in electronic format.

Retail: Volume of sales

Wholesale: Volume of sales

New vehicles: Sales
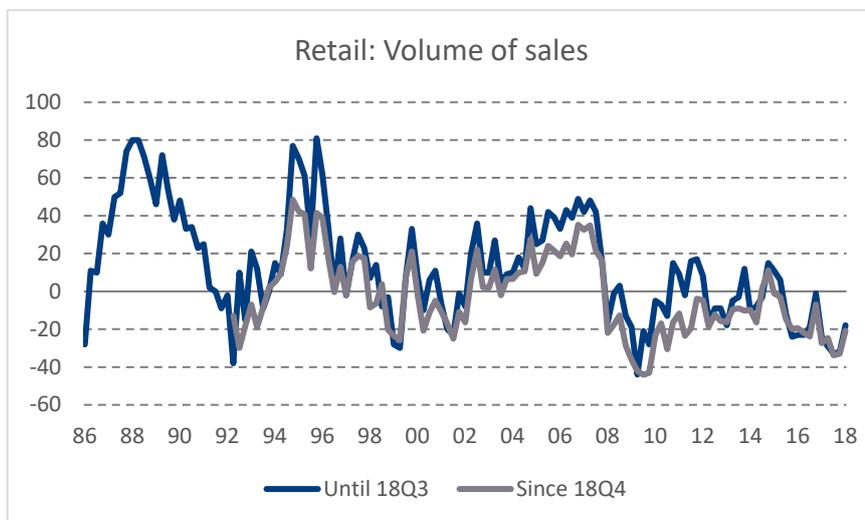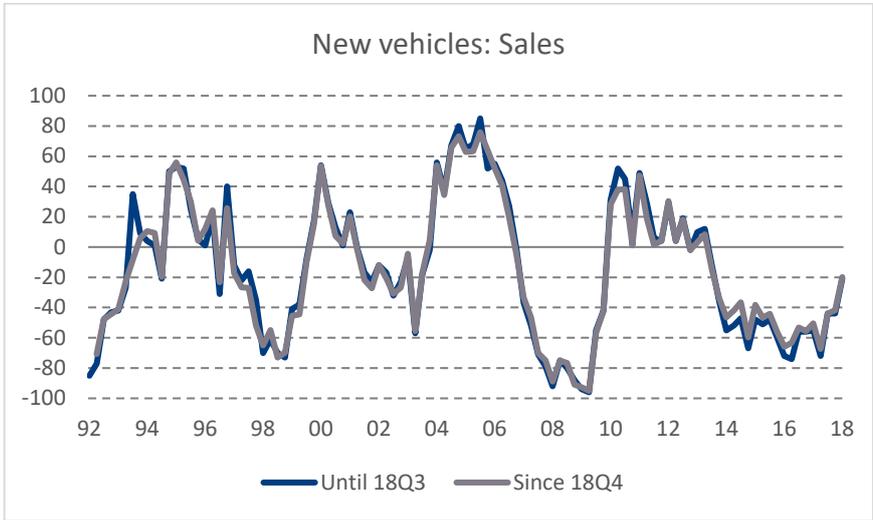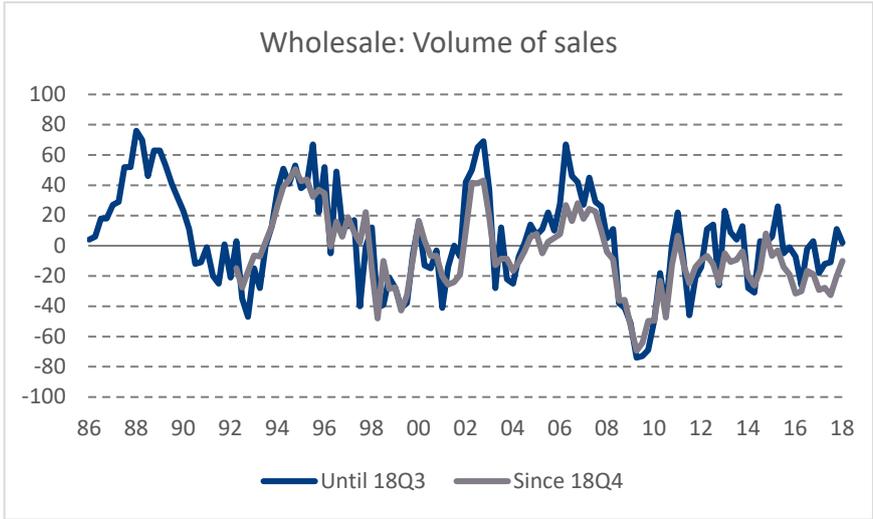
Manufacturing survey

Weighting

In 1996, the BER replaced turnover with employment ranges to assign nine firm weights. However, employment turned out not to be a fitting proxy for firm size in all the sectors. For instance, labour intensive firms in the clothing industry received higher weights than capital-intensive firms in the steel industry. With the 2018-revision, the BER switched back to turnover as a proxy for firm size.

On top of this update, the BER also reduced the number of firm weight categories from nine to four and reduced the ratio between the smallest and the largest firm weight. The four new categories agree with the micro, small, medium and large firm size categories of Stats SA and the dti (Department of Trade and Industry). The ratio was reduced to deal with the volatility in the survey results when not all the participants respond every quarter.

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Every few years the BER updates the <u>sector weights</u> to provide for changes in the composition of production. In addition, the BER shifted to more disaggregated sector weights, moving from weights calculated at SIC code 2 level (e.g. total food) to SIC code 3 level (i.e. meat, dairy and "other food" are differentiated within food). ("SIC" stands for the International Standard Industrial Classification of All Economic Activities.)

As is the international norm, the same production-based sector weights are applied to all questions. Applying export-based weights to the export related questions did not produce higher correlations. To simplify the calculations, we therefore decided to continue applying the production weights to the export questions.

Sector and provincial results

In the fourth quarter of 2018, the BER changed the aggregation of the sectors that it publishes to conform to the SIC code level 2 classification. The higher level of aggregation helped reduced the volatility of the survey results for these sectors.

- "Food" and "Beverages" were combined to "<u>Food and beverages</u>".
- "Textiles" and "Clothing" were combined to "<u>Textiles, clothing, leather and footwear</u>".
- "Wood", "Paper" and "Printing and Publishing" were combined to "<u>Wood, paper, printing and publishing</u>".
- "Chemicals" and "Plastics" were combined to "<u>Chemical products, rubber and plastics</u>".
- "Basic metals", "Metal Products" and "Machinery" were combined to "<u>Basic metals, metal products and machinery</u>".

The coverage of the "Non-Metal Minerals", "Transport" and "Furniture" sectors were not changed, but they were renamed to "<u>Glass and non-metallic products</u>", "<u>Motor vehicles, parts and transport equipment</u>" and "<u>Furniture and other</u>" respectively.

The "<u>Electrical Machinery</u>" (including radio, TV and professional equipment) sector continues to be covered and included in the total, but the results are no longer published separately.

To maintain consistency with the historical data, the BER survey continues to not cover petroleum refining (part of the broader "chemical products, rubber and plastics" sector) and scrap metal (part of the "other" in the "furniture and other" sector.)
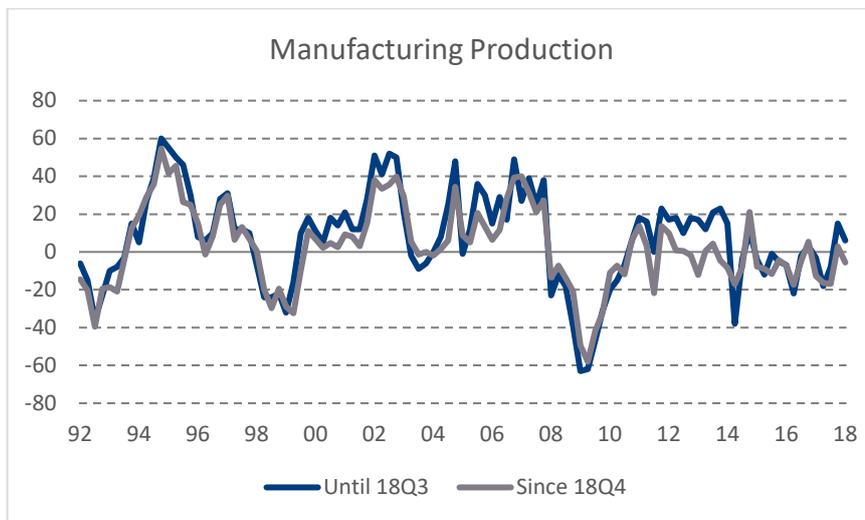
The three main industrial groupings - namely consumer, intermediary and capital goods – were added.

Due to its diminishing share, the results for the Eastern Cape are no longer published separately.

The updated sector weights and the new four-category firm weights were applied to the original individual responses (the so-called microdata) to recalculate all the historical time series going back to 1992.

In the case of the combined sectors (e.g. "food and beverages") the time series of the constituent sectors (i.e. "food" and "beverages") were weighted to estimate the results between 1975 and 1991. When the sector classification did not change (e.g. transport equipment), then the historical time series for the period from 1975 to 1991 were merely added. In most cases, the data prior to 1975 is not available in electronic format.

20 November 2018